

**ABSTRACT**

Described is a method for calibrating a spectrophotometric apparatus. This  
5 method involves obtaining a first set of absorbance measurements of a set of  
calibrators on a First Apparatus that is in control at wavelengths from a first  
wavelength calibration table. A second wavelength calibration table on a  
second apparatus is established, wherein the first and the second  
wavelength calibration tables may be the same or different. A second set of  
10 absorbance measurements of the set of calibrators is obtained on the  
Second Apparatus, at wavelengths from the second wavelength calibration  
table. First and second interpolated absorbances are determined, for the first  
and the second absorbance measurement, respectively, for at least one  
wavelength of a Standard Set of Wavelengths. Using the first and the  
15 second interpolated absorbances, a linear regression equation for each  
wavelength of said Standard Set of Wavelengths is determined. The linear  
regression equation and at least one Primary Calibration Algorithm are  
incorporated onto the Second Apparatus, to produce a calibrated apparatus.  
The present invention is also directed to a medium storing instructions  
20 adapted to be executed by a processor to determine analyte concentration  
within a sample. Furthermore, the present invention provides an apparatus  
for determining analyte concentration of a sample, and a system for  
determining presence of an analyte in a sample.